9/15/95

Focused Site Inspection Prioritization Report

for the

Highland Park Landfill

USEPA ID No. ILD 981 795 479

September 15, 1995

Prepared for
U.S. Environmental Protection Agency
Contract 68-W8-0064
Work Assignment 32-5JZZ

For U.S. Environmental Protection Agency, Region V

Approved by: Alan Altur Date: 9/22/95

For Illinois Environmental Protection Agency

Approved by:________________ Date: ________

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1.0 Introduction

On December 13, 1994, Black & Veatch Waste Science, Inc., (BVWS) the Alternate Remedial Contracting Strategy (ARCS) V contractor, was authorized, by approval of the work plan amendment by the U.S. Environmental Protection Agency (USEPA) Region V, to conduct a focused site inspection prioritization (FSIP) of several sites in Illinois.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) established a federal program for responding to the risks posed by uncontrolled releases of hazardous substances. CERCLA required the federal government to establish criteria for setting priorities among releases or threatened releases and specified these criteria be used to establish the National Priorities List.

The USEPA responded to these mandates by developing the Hazard Ranking System (HRS) to more accurately quantify the relative risk posed by hazardous waste substance releases. A revised HRS was published in December 1990.

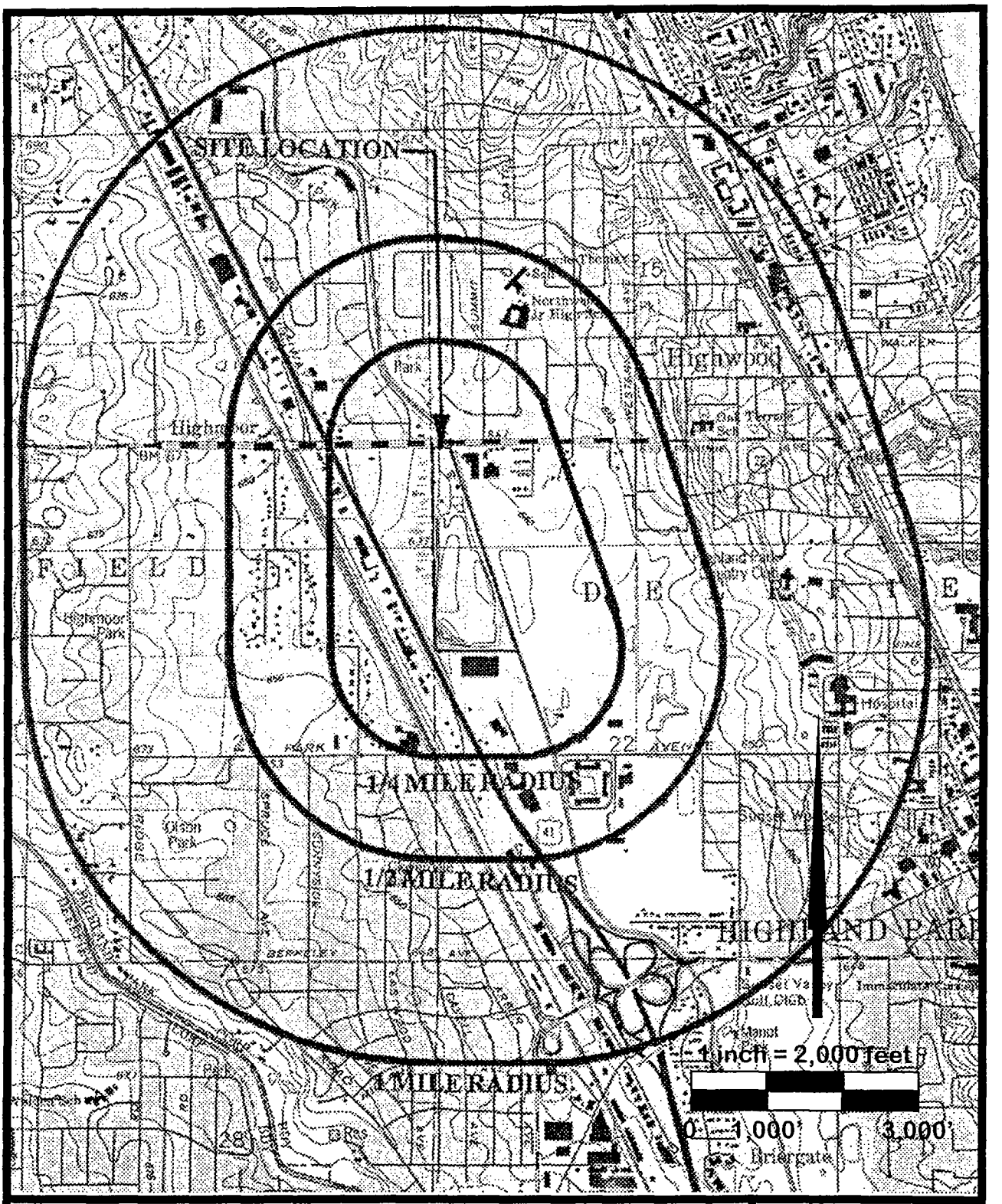
The objective of the FSIP is to update outstanding screening site inspections (SSIs) performed before the implementation of the revised HRS for which a final decision has not been made regarding further action. The FSIP will determine whether the existing SSI information meets a minimum standard to reflect the revised HRS and if not, collect additional information by file review, reconnaissance and sampling on an as-needed basis. The FSIP will evaluate the threats posed to human health and the environment and provide sufficient documentation for USEPA to decide the appropriate future course of action (No Further Remedial Action Planned [NFRAP], further evaluation, or preparation of an HRS scoring package).

2.0 Site Background

2.1 Site History

The Highland Park Landfill (HPLF) is located approximately 1,400 feet east of the intersection of Halfday Road (IL Route 22) and Skokie Highway (U.S. Route 41) in the city of Highland Park, Lake County, Illinois. Figure 1 is a site location map. Figure 2 is a site layout map. The site is located in a suburban area with a predominantly flat topography. The 80 acre landfill began operations in 1930, receiving unknown amounts and types of municipal wastes. In 1963, the City of Highland Park applied for a permit to dispose of municipal wastes and sewage sludge in three 300 foot long, 30 foot deep, unlined trenches in the landfill. The widths of these trenches are unknown; therefore, the overall volume could not be calculated. According to a representative of the City of Highland Park, the landfill was closed and covered with 5 feet of an unknown fill material in 1973; however, subsequent investigations of the site have revealed some exposed waste in excavated areas and in areas underneath trees that have fallen. This may suggest that the 5 foot cover is not uniform. During its operation, the landfill was owned and operated by the City of Highland Park; however, since closing, the property has been divided into three lots owned by the City of Highland Park, the North Shore Sanitary District, and the Highland Park Country Club.

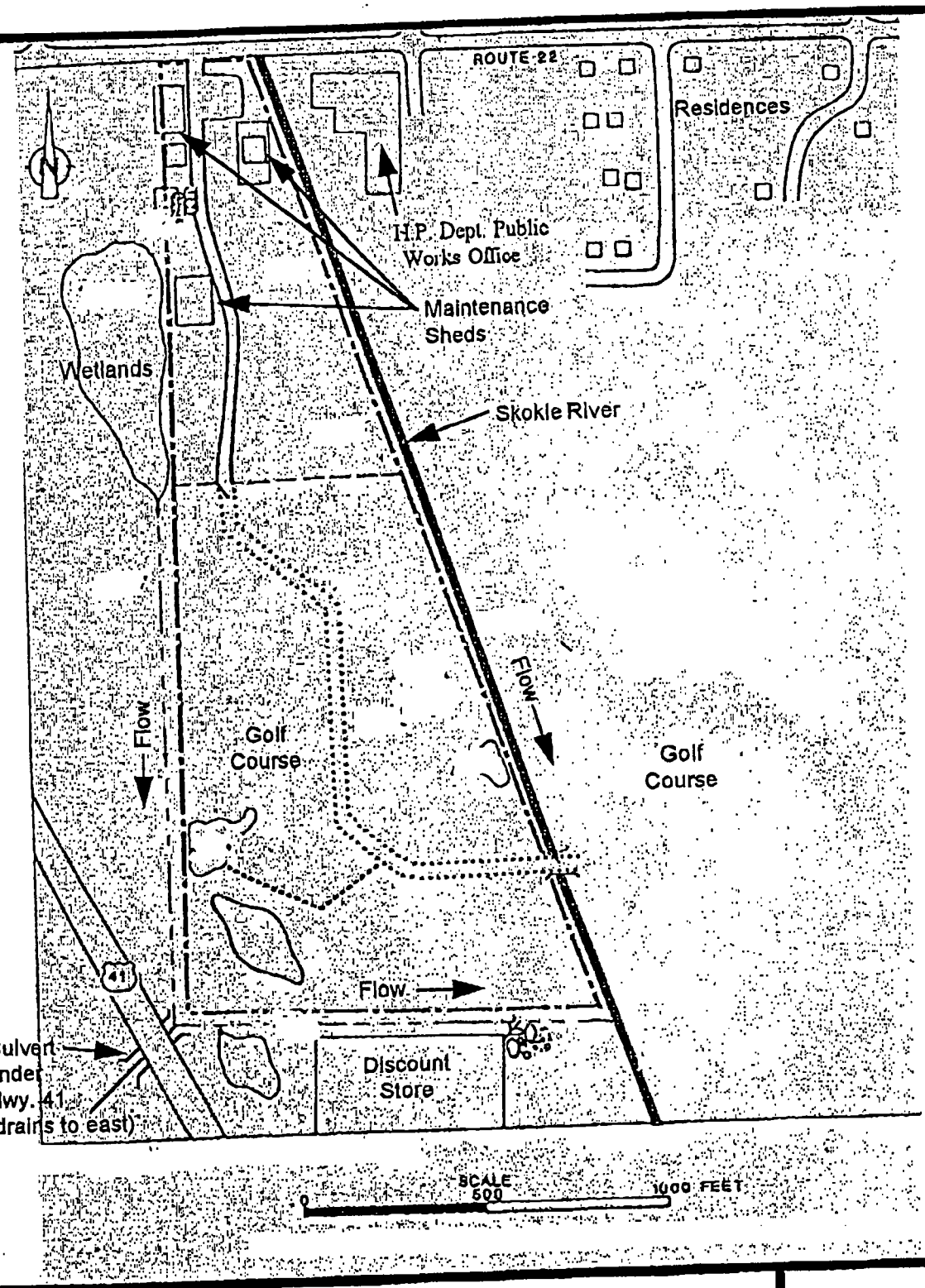
The southern half of HPLF has been used as a golf course since 1973. Country Club personnel indicated that concrete, tires, and other debris occasionally protrude through the ground surface; some areas do not support vegetation; and odors and garbage have been detected during sandtrap excavation. The northern portion of the site is used by the City of Highland Park for maintenance, storage, and as a tree nursery. The Highland Park Fire Department uses the site to practice putting out fires and opening up automobiles after simulated crashes. According to the Lake County Department of Health and the City of Highland Park, there are four groundwater monitoring wells located around the perimeter of the landfill. These wells have not been sampled in over six years and the City had no data available. There are no records of violations concerning HPLF; however, several complaints regarding ponding, leachate seeps, odors, and rats have been reported to the Lake County Health Department. The Illinois Environmental Protection Agency (IEPA) performed several inspections of remaining fill areas in 1976 and found no evidence of leachate or other waste deposition.



Site Location Map
Focused Site Inspection Prioritization
Highland Park Landfill
Highland Park, Lake County, Illinois

Figure 1

Source: USGS Highland Park IL Quadrangle, 7.5 minute series, 1973a.



Site Layout Map
Focused Site Inspection Prioritization
Highland Park Landfill
Highland Park, Lake County, Illinois

Figure 2

2.2 Past Site Characterization Studies

The site was investigated by the Lake County Health Department in 1986. IEPA performed a preliminary assessment at the site in December 1987. On May 31, 1988, the USEPA Field Investigation Team (FIT) contractor completed an SSI of HPLF that included the collection and analysis of four surface water samples, four sediment samples, and eight surface soil samples. Groundwater monitoring was not performed at the site. Surface soil samples were collected at various locations around the landfill site and in an area of exposed waste. The surface soil samples were analyzed for target compound list and target analyte list substances. Analytical results indicated the presence of polynuclear aromatic hydrocarbons, volatile organic compounds, pesticides, polychlorinated biphenyls, and heavy metals. Surface water samples indicated the presence of cobalt at levels above background concentrations. One surface water sample indicated the presence of barium, copper, lead, and zinc; however, the sample could not be used to support an observed release to surface water because it was taken in an intermittent stream. Sediment samples were collected, but a background sample was not collected. Sediment samples from a wetland area located adjacent to the landfill indicated the presence of polynuclear aromatic hydrocarbons, volatile organic compounds, pesticides, and heavy metals. No known sampling investigations have been conducted at the site since the SSI.

The site owners, the Lake County Health Department, and the IEPA were contacted during this FSIP. The City of Highland Park provided information concerning the closure of the landfill, the history of the landfill, and information about the Skokie River, which flows along the eastern site border. The Lake County Health Department provided an inspection history of the site that indicated the landfill was properly maintained. IEPA informed ARCS V contractor personnel that there were no other files concerning this site and that they knew little about the site itself.

2.3 FSIP Site Reconnaissance/Sampling

The ARCS V contractor conducted an onsite reconnaissance on May 16, 1995. Representatives of the Highland Park Country Club and the City of Highland Park were interviewed. The deputy director of public works, Perry Walcott, confirmed that the current land use is consistent with the file material. The northern portion of the site is used by the public works department for equipment storage, salt storage, fire fighter training, a tree nursery, and an animal shelter. Mr. Walcott stated that he did

not believe a liner or leachate collection system exists at the landfill. He was aware only of a cap, which was constructed in 1974, and the installation of the four monitoring wells.

The southern portion of the landfill is used as a public golf course, called the Highland Park Country Club. The person responsible for maintaining the grounds for the Highland Park Country Club, Mike Larson, stated that they had not had any recent problems with exposed refuse, leachate, or other landfill-related concerns.

3.0 Pathway Evaluation

A review of the records obtained by the ARCS V contractor indicates the landfilled wastes are the possible source of contamination. The program evaluated four contaminant transport pathways: groundwater, surface water, soil exposure, and air.

3.1 Groundwater Pathway

In the landfill area, the shallow aquifer is composed of unconsolidated glacial deposits of the Wadsworth Till Member and the Wedron Formation. Underlying the glacial deposits is the Silurian dolomite bedrock aquifer. The glacial deposits and the Silurian bedrock are believed to be interconnected. The site is situated in a depression between the Highland Park and Deerfield Moraines. Groundwater flow is likely influenced by the presence of the moraines and the proximity of Lake Michigan, which would draw groundwater flow toward the east.

Area residents receive their water from municipal intakes in Lake Michigan. There are no wells within a 4-mile radius of the site that are used for public water supply. The nearest private well is approximately 0.75 miles west-northwest from the site near the intersection of Half Day Road and Ridge Road. Public water service is available to all of the residents within the 4-mile radius; however, some may continue to utilize older existing private wells. Additional private wells may be located to the west of the site in the villages of Riverwoods and Bannockburn.

3.2 Surface Water Pathway

Runoff from the site flows into an intermittent stream on the western and southern boundaries, and into the Skokie River from the eastern boundaries of the site. The intermittent stream drains into the Skokie River at the southeastern site corner, which is the beginning of the 15-mile surface water pathway. The Skokie River flows approximately 3.5 miles before entering the Skokie Lagoons. The Skokie Lagoons are part of the Cook County Forest Preserve and are approximately 4 miles long. The Skokie Lagoons drain into the Skokie River, which flows approximately 1.75 miles southwest to its confluence with the North Branch of the Chicago River. The 15-mile surface water pathway ends in the North Branch of the Chicago River approximately 5 miles downstream of its confluence with the Skokie River. There are approximately 3.95 miles of wetlands frontage along the surface water pathway.

The surface water is not utilized for drinking water or food processing. Recreational boating does occur in the Skokie Lagoons and the North Branch of the Chicago River. It is assumed that the North Branch of the Chicago River is used for recreational fishing.

3.3 Soil Exposure Pathway

The landfill final cover was placed in 1973 with approximately 5 feet of unknown material. On May 31, 1988, FIT collected seven soil samples and four sediment samples. Cover soils limit the likelihood of exposure to any contamination. Tree removals from the nursery area may occasionally expose debris; however, these voids are typically refilled. The site is active, but not used as a landfill. There are some municipal workers and golf course personnel onsite. No residences are onsite and no schools are within 0.25 mile of the site. Approximately 2,732 people reside within 1 mile of the site.

3.4 Air Pathway

No air contamination has been documented or reported. No air samples have been collected at the site. Approximately 23,487 people live within a 4-mile radius of the site. Sensitive environments within a 4-mile radius include approximately 12 acres of wetlands adjacent to the landfill, 1 designated nature preserves, and 1 federal designated endangered plant.

4.0 Summary

The ARCS V contractor conducted an onsite reconnaissance visit on May 16, 1995, and a thorough review of the available files associated with the HPLF site. The four migration pathways evaluated included groundwater, surface water, soil, and air. Based on this information and the site conditions observed during the May 16, 1995, reconnaissance, no samples were collected at the HPLF site.

5.0 References

Bergstrom, R. E., and Others, Groundwater Possibilities in Northeastern Illinois, Illinois State Geological Survey, Circular 198. 1955.

Ecology & Environment, Inc., Screening Site Inspection Report for Highland Park Landfill, January 13, 1989.

Ecology & Environment, Inc., Potential Hazardous Waste Site, Site Inspection Report, May 31, 1988.

Hughes, George M., Kraatz, Paul, Landon, Ronald A., Bedrock Aquifers of Northeastern Illinois, Illinois State Geological Survey, Circular 406. 1966.

Illinois Environmental Protection Agency, Division of Public Water Supplies, Listing of Public Water Supplies. 1985.

Illinois Natural Heritage Database, Lists of Illinois Natural Areas Inventory, Nature Preserves and Endangered and Threatened Species Groups by county, April 1995.

Illinois State Water Survey, printouts of PICSs and Private Well databases, 1992.

Pehrman, Dane, ARCS V Contractor, telephone conversation with Perry Walcot, City of Highland Park, Highland Park Landfill, April 17, 1995. Subject: Site History and general information.

Piskin, Kemal, Bergstrom, Robert E., Glacial Drift in Illinois: Thickness and Character, Illinois State Geological Survey, Circular 490. 1975.

Reints, Ramona, ARCS V Contractor, Field Book for the site investigation of the Highland Park Landfill site, May 16, 1995.

Rockford Map Publishers, Inc. "Illinois Travel and Recreation Guide" 4525 Forest View Avenue PO. Box 6126 Rockford, Illinois.

U.S. Department of Commerce, 1990 Census of Population and Housing, Illinois.

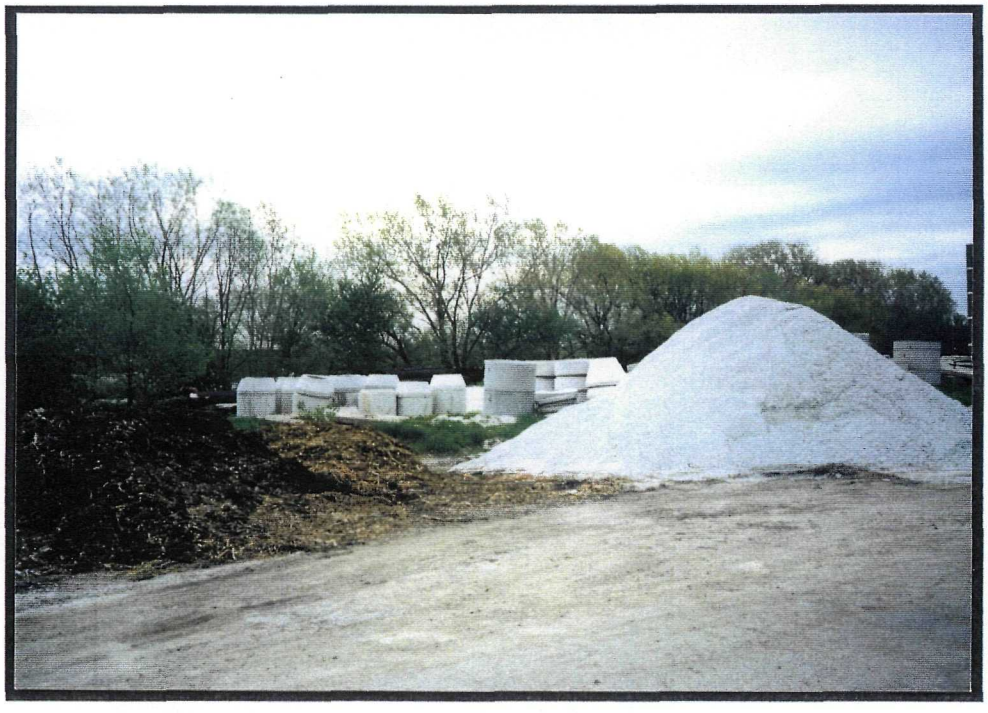
U.S. Geological Survey, 7.5 Minute Quadrangle Topographic Maps, Arlington Heights, Evanston, Highland Park, Park Ridge, Wheeling, Waukegan, Illinois. 1973.

U.S. Department of the Interior, National Wetlands Inventory, 7.5 Minute Quadrangle, Highland Park, Park Ridge, Illinois. 1981.

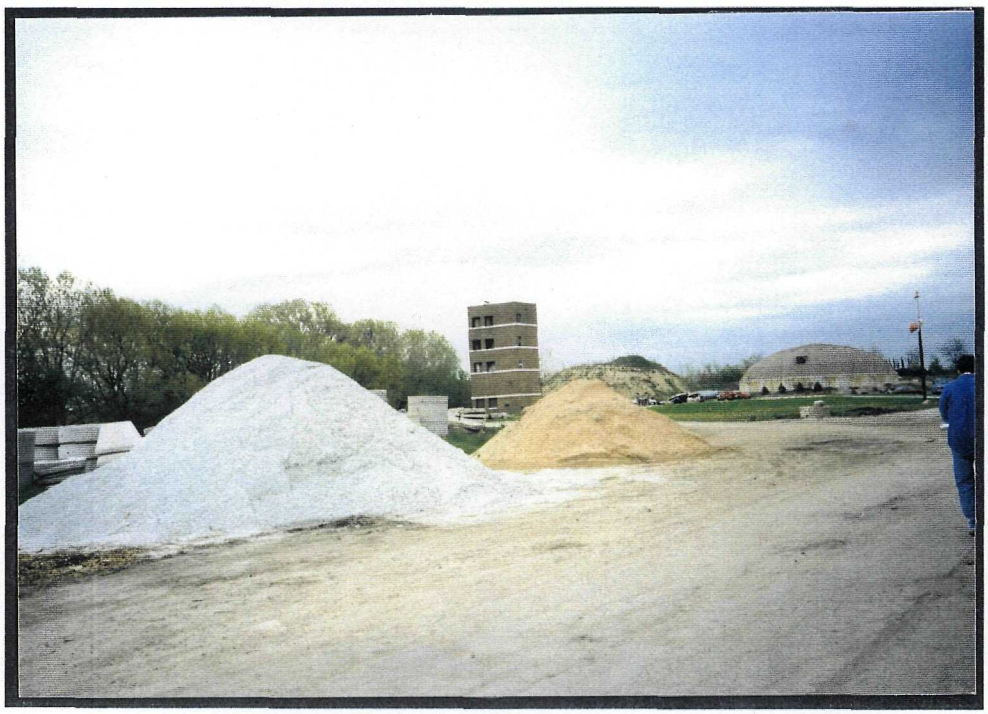
Appendix A
Site Reconnaissance Photographs

Date: 5/16/95
Time: 1019
Photo Taken By: R. Reints
Photo Number: 1
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: Southwest
Description: Skokie River from Rt. 22 bridge

Date: 5/16/95
Time: 1020
Photo Taken By: R. Reints
Photo Number: 2
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: Southeast
Description: Public works area



Date: 5/16/95
Time: 1020
Photo Taken By: R. Reints
Photo Number: 3
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: Southeast
Description: Public works area



Date: 5/16/95
Time: 1022
Photo Taken By: R. Reints
Photo Number: 4
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: North
Description: Public works area

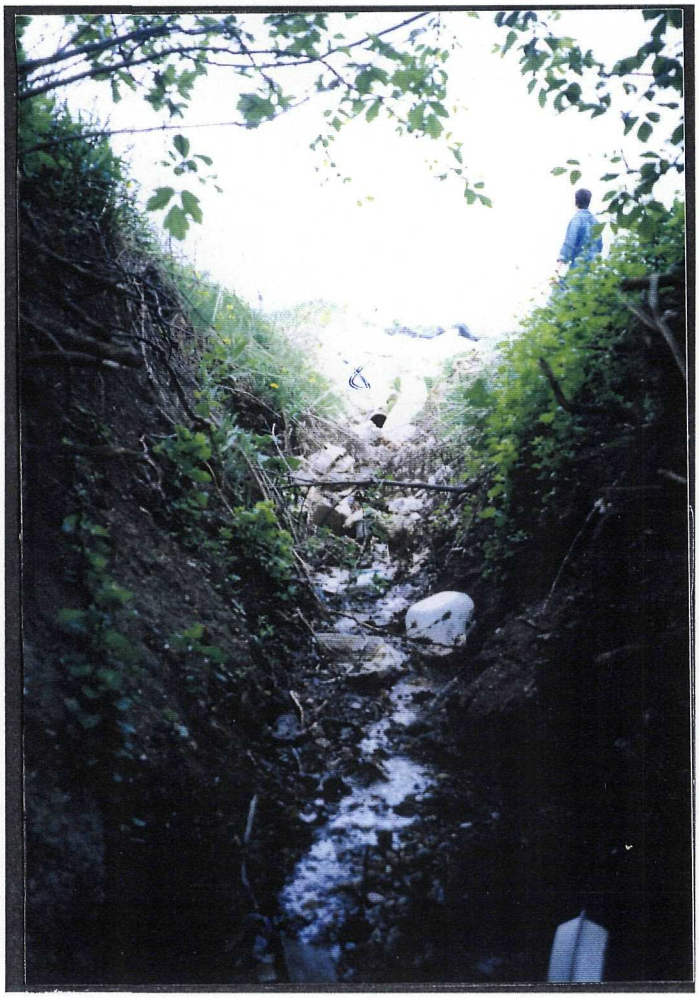
Date: 5/16/95
Time: 1022
Photo Taken By: R. Reints
Photo Number: 5
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: East
Description: Public works area

Date: 5/16/95
Time: 1025
Photo Taken By: R. Reints
Photo Number: 6
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: South
Description: Public works area

Date: 5/16/95
Time: 1027
Photo Taken By: R. Reints
Photo Number: 7
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: North
Description: Public works area

Date: 5/16/95
Time: 1040
Photo Taken By: R. Reints
Photo Number: 8
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: South
Description: Skokie River from Half Day Rd.

Date: 5/16/95
Time: 1104
Photo Taken By: R. Reints
Photo Number: 9
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: West
Description: Ravine flowing into Skokie River

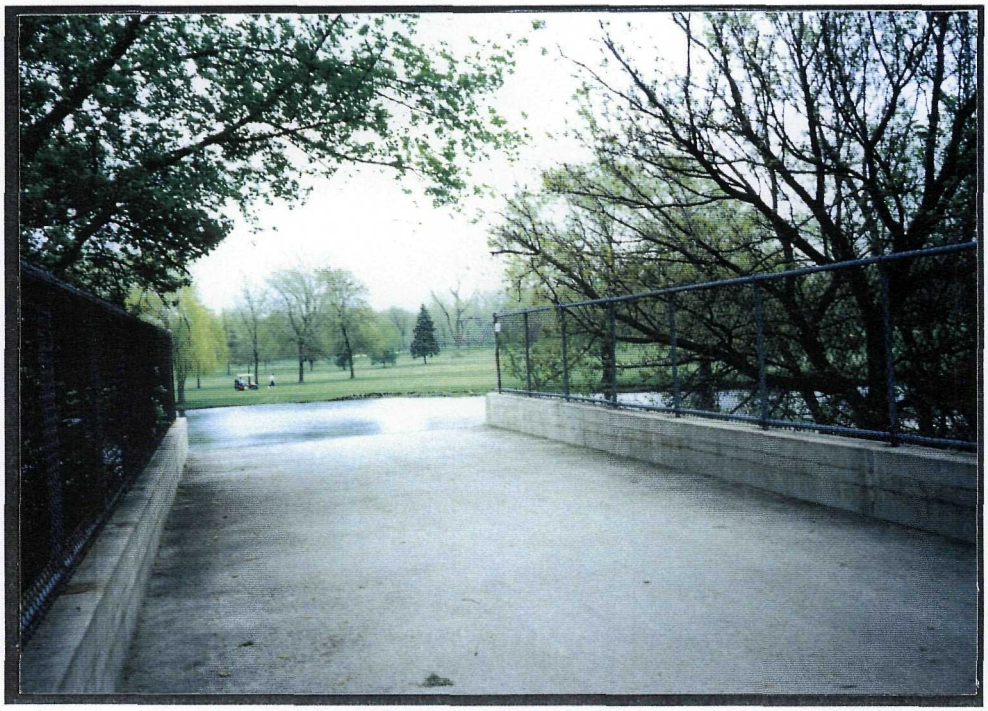


Date: 5/16/95
Time: 1125
Photo Taken By: R. Reints
Photo Number: 10
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: Southeast
Description: Wood/landscape waste

Date: 5/16/95
Time: 1130
Photo Taken By: R. Reints
Photo Number: 11
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: Southwest
Description: South end of site

Date: 5/16/95
Time: 1130
Photo Taken By: R. Reints
Photo Number: 12
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: West
Description: Green area, drains to Skokie River

Date: 5/16/95
Time: 1130
Photo Taken By: R. Reints
Photo Number: 13
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: East
Description: Golf course east of site

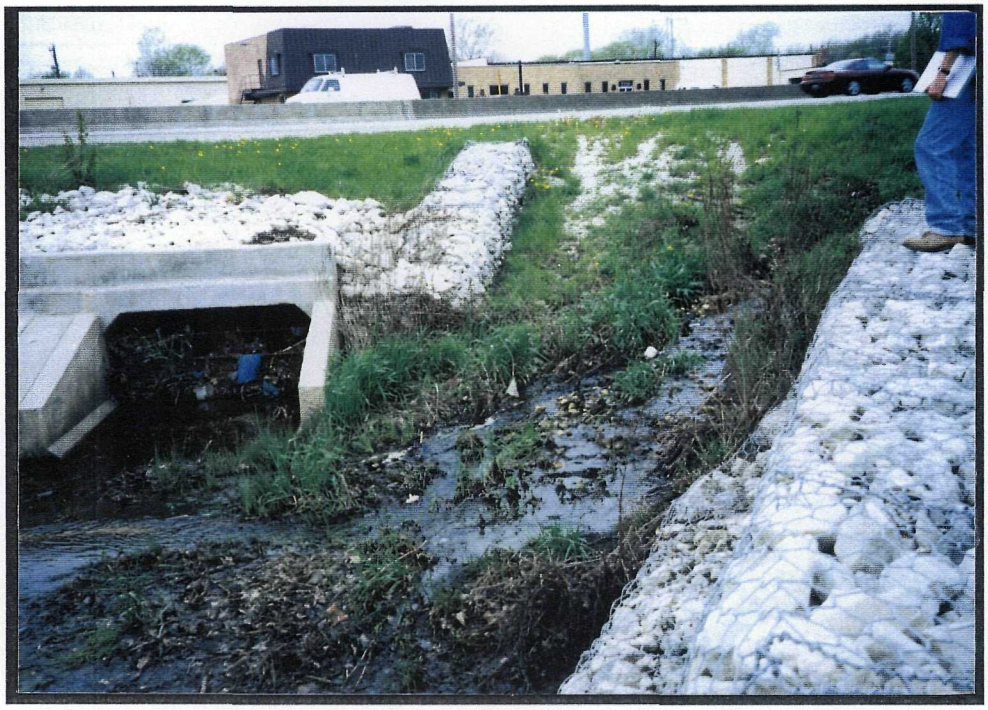


Date: 5/16/95
Time: 1134
Photo Taken By: R. Reints
Photo Number: 14
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: West
Description: Drainage ditch at Southern boundary

Date: 5/16/95
Time: 1135
Photo Taken By: R. Reints
Photo Number: 15
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: East
Description: Drainage ditch enters Skokie River

Date: 5/16/95
Time: 1140
Photo Taken By: R. Reints
Photo Number: 16
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: Southwest
Description: Southwest corner of site

Date: 5/16/95
Time: 1141
Photo Taken By: R. Reints
Photo Number: 17
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: Northwest
Description: Drainage under Rt. 41



Date: 5/16/95
Time: 1150
Photo Taken By: R. Reints
Photo Number: 18
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: North
Description: Stream along west boundary

Date: 5/16/95
Time: 1153
Photo Taken By: R. Reints
Photo Number: 19
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: North/northwest
Description: Wetland west of site

Date: 5/16/95
Time: 1153
Photo Taken By: R. Reints
Photo Number: 20
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: North/northwest
Description: Wetland west of site

Date: 5/16/95
Time: 1205
Photo Taken By: R. Reints
Photo Number: 21
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: South/southwest
Description: Wetland west of site

Date: 5/16/95
Time: 1206
Photo Taken By: R. Reints
Photo Number: 22
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: North
Description: Wetland area west of the site

Date: 5/16/95
Time: 1216
Photo Taken By: R. Reints
Photo Number: 23
Site/ILD No.: Highland Park Landfill/ILD981795479
Direction of Photo: North/northeast
Description: Shed, rusted drum, tank